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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,172	12/21/2001	Satoru Miyamoto	60093-B CCD	6113

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT

PAPER NUMBER

1756

DATE MAILED: 03/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,172

Applicant(s)

MIYAMOTO ET AL.

Examiner

Christopher D RoDee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 26-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 26-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 27 January 2003 has been entered. This submission contained a new executed declaration under Rule 132 and a request for reconsideration.

Claim Rejections - 35 USC §§ 102 & 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3, 5, 7, 26-28, 30, and 32 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Karaki *et al.* in US Patent 5,912,101.

This rejection was originally set forth in paper #4 of the instant application and reiterated in paper #6. The claims are the same as presented in the last Office action.

Applicants have provided a second declaration under Rule 132 to address certain deficiencies noted in the previously submitted (i.e., first) Rule 132 declaration. In review of the first declaration the Examiner stated,

“Each of the values obtained (for Examples 1-3) shows a residue mass outside the scope of the claims. However, it is not clear in the (first) declaration

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how the toners in the declaration were made or if they were acquired from a vendor or other source. The brief summarization that the toners of Karaki were tested does not establish *by evidence* that the toners were actually Karaki's examples 1-3. In order to show that Karaki's toners were tested the declaration should show that the toners tested had the composition and properties disclosed by the reference (e.g., circularity, circle-equivalent particle diameter, particle size frequency, etc.). The declaration does not meet this requirement.

The second declaration provides additional details concerning the preparation of the toners corresponding to Examples 1-3 of Karaki (cols. 23-25). The second declaration discusses how the first declaration toners were made and provides the circularity and circle-equivalent particle diameter for each declaration example's toner. These circularity and particle diameter values are the same in the declaration as the corresponding values in the reference examples. The data does not specify the particle size frequency as acknowledged on declaration page 4. In the request for reconsideration applicants state that the particle size frequency is not reported because the data present is sufficient to show that toners tested are actually toners corresponding to the cited examples.

The Examiner cannot agree with this position. In setting forth the rejection initially the Examiner noted,

"The particle size distributions of the exemplified toners indicate that nearly 100% of the toners have sizes below 25 μm (500 mesh - see spec. p. 18) and have an average particle size (50% cumulative) of below 9 μm noting the data in Tables 2-4. Thus the examples' toners appear to inherently have the requisite residue of the instant claims."

The particle size distribution is a key factor in asserting that Karaki's toners inherently meet the residue values of the instant claims. Specifically, nearly all the toners in Karaki have sizes that will not be retained by a 500 mesh sieve. The artisan viewing the combination of

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toner circularity, average size, and particle size distribution for Examples 1-3 would have ample reason to believe that the toners of Karaki fall within the scope of the instant claims. Evidence that does not show the particle size distribution of the toners in Examples 1-3 is not sufficient to overcome the rejection because it is not clear that Karaki's toners have been reproduced and tested. It appears that the pulverization and classification steps in Karaki are factors in obtaining the particle size distribution. A specific pulverizer and Coanda classifier are used in Karaki. The declaration does not specify the pulverizer or classifier used.

The disclosure of circularity and average particle diameter in the declaration does not mean that the same toners are produced in the declarations and in Karaki. A toner can have the same average size and circularity but different particle size distributions. For example, a hypothetical collection of toners having one particle at each of 4 μm , 5 μm , and 6 μm would have the same average particle size as a second hypothetical collection of toners having one particle at 3 μm , 5 μm , and 7 μm . Each hypothetical set of three toners has an average size of 5 μm , but the particle size distribution is different. One cannot equate average particle size with particle size distribution. Thus, the evidence of record does not clearly reproduce Karaki's toners and is not persuasive to overcome the instant rejections.

The particle size distribution in Karaki gives no reason to believe that aggregates of the toners are present as asserted in the responses and declarations. Even if aggregates were shown to be present in the toner before being passed through the sieve and in the sieving process the aggregates separated and then re-aggregated as discussed in the specification in the passage spanning pages 16 and 17, the requirements of the instant claims *would still be met* because the claims only require that the toner is sieved using the 500-mesh sieve and has the requisite residue during the sieving. There is no requirement that the toner does not re-aggregate after the sieving process. In any event, the toner of Karaki appears to meet the

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requirements of the instant claims because the particle size distribution shows 100% or nearly 100% of the toners have sizes at or below 25 μm . The particle size determination in the reference (e.g., col. 12, l. 5-23) appears to include determination of the size of aggregates as no special processing is conducted to break up aggregates.

In ¶ 5 of the declaration, Declarant states that the aggregation property of the toner is affected by the type, quantity, and method of addition of the toner external additive. The Examiner has carefully reviewed the specification but was unable to find a corresponding disclosure. Specification page 17 states that the circularity of the toner particles has a close relationship with the formation of aggregated toner particles. The greater the circularity of the toner particles the more easily aggregates are formed. More aggregates equate to a higher residue value because aggregates are less likely to pass through the sieve (spec. pp. 16-17). The specification also discusses the fluidity-imparting agent addition step (spec. p. 19) and notes that this step affects the shape of the toner. The toner can be made spherical (i.e., a circularity of about 1.00) or the toner can have the agents embedded, which would appear to give a circularity below the claimed lower limit as the surface of the toner would become irregular. The method of addition of the toner external additive is already reflected in the claimed circularity. The specification discloses no apparent relationship of the type and quantity of the toner external additive (i.e., the fluidity-imparting agent) to the claimed residue value. If such a relationship is disclosed applicants are asked to refer the Examiner to the appropriate passages in the specification.

The declarations and remarks are not persuasive to overcome the instant rejection over Karaki.

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Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ota in US Patent 5,240,803 in view of Inaba *et al.* in US Patent 5,827,632, further in view of *Handbook of Imaging Materials* to Diamond, p. 168-9, 178-81.

This rejection was originally set forth in paper #4 of the instant application and reiterated in paper #6. The claims are the same as presented in the last Office action.

Applicants traverse the instant rejection based on the additional data in the second Rule 132 declaration. That declaration on page 3 discusses the manner in which the toner is made. Although the declaration does specify composition of the polymerizable composition and the suspension medium, the declaration does not specify that the composition was dispersed in the manner recited in Ota or the conditions of polymerization (e.g., col. 10, l. 60-64). The declaration also does not specify the dispersion (D_{25}/D_{75}) of the toner, which is a factor in finding that the references in combination disclose or suggest a toner having the claimed residue value.

It is not apparent from the declaration that the toner of Ota has actually been produced in the declaration because specific process conditions are not disclosed in the declaration and the dispersion values of the declaration's toners are not identified. Because Ota's toners are not actually reproduced in the declaration the evidence cannot show an unexpected result for the claimed invention as compared to the prior art. Additionally, the specification evidence remains unpersuasive because it does not appear to reproduce Ota. Until such time as actual comparisons with Ota are presented, applicant's remarks concerning the validity of the testing methods used in the specification (response p. 4) are not germane.

The Examiner again relies on the statement of Diamond that it is advantageous to obtain as narrow a toner particle size distribution as possible to reduce dirt in the machine environment (p. 178, § 4.3.3). Such a statement would clearly lead the artisan to conclude that aggregates of the toners are not desired because aggregates would have an average particle size

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substantially larger than that of the individual particles. Diamond's teaching would be without merit if it did not limit the size of aggregate particles in the toner as there would be little use in limiting the size of the individual particle while permitting aggregates that have substantially larger sizes than desired. Applicants do not appear to have specifically disagreed with this position in the recent response although they do state that Ota does not inherently have the claimed residue value. This point is sufficiently addressed by the Examiner above and in the prior Office actions. Even if the reference does not inherently have the claimed residue value the Examiner maintains the position that the artisan would have found it obvious to optimize the toner's particle size distribution to as narrow a value as possible because this is known in the art to reduce dirt and optimize copy quality (Diamond, *supra*.; pending claim 8). Such a narrow size distribution would motivate the artisan to minimize the "residue" value of the instant claims because residue includes the presence of particles far from the average particle size of the median diameter in Ota (e.g., 11 μm in Ota's Example 4).

With respect to the testing method employed to determine circularity, applicants have not submitted a full translation of JP 10-097095 to show that the devices used are the same. The translation in the declaration of a certain portion of the JP document is noted but a full translation is not of record. Applicants have also submitted no evidence to show that circularity measured by this device must be done in the manner discussed in the JP reference and that it cannot be done in the manner of Ota. The specification also gives no reason to believe that the circularity in the instant specification was determined by the JP reference's methodology. Clearly the artisan would be expected to use those methods known in the art for the specified device, the methodology of the JP reference being one such method. However, there is no indication that circularity can only be determined in the manner of the JP reference.

The rejection is maintained.

Claims 1-8 and 26-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karaki *et al.* in US Patent 5,912,101 in view of Inaba *et al.* in US Patent 5,827,632, further in view of *Handbook of Imaging Materials* to Diamond, p. 168-9, 178-81.

Applicants traverse this rejection because of the evidence of record and because the art does not suggest the criticality of the extremely small proportion of residue in the claimed toner. This small residue amount gives the results shown in the specification examples.

The Examiner must maintain this rejection for the same reasons as given above in the rejection of Karaki alone. The evidence of record does not show that the toners of Karaki have been reproduced.

With respect to the other point of traversal, Diamond clearly suggests that the particle size distribution of the toner should be narrow. Diamond's teaching would be without merit if it did not limit the size of aggregate particles in the toner as there would be little use in limiting the size of the individual particle while permitting aggregates that have substantially larger sizes than desired. The electrostatic latent image is developed by attraction of the toner particles to the charged or discharged areas of the imaging member. Small particles give more image resolution than larger particles. Further the aggregates would be expected to have a smaller charge to mass ratio (see Diamond, p. 179, top) than the individual toners because of their smaller external surface area and larger mass. The disparity of toner and aggregates with different charge to mass ratios would be expected by the skilled artisan to affect the image produced (see Diamond, p. 180, third full paragraph, first sentence). Presumably the aggregates would not be as easily attracted to the image. Clearly the resultant image produced from a toner comprised of individual toner particles and aggregates would not have as good ability to resolve an image than a toner having all particles of the same size. The art provides ample motivation to minimize the size distribution of the toner. Given that the exemplified toners

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in Karaki have sizes of from about 4 to about 6 μm there is no reason to produce a size distribution so that toners or toner aggregates of 25 μm are produced. The artisan would clearly seek to minimize the toner particles so much larger than average size desired, particularly in view of the particle size distributions disclosed in detail in Karaki (e.g., Tables 2 and 3). Clearly the size distribution of the toner is a result effecting variable, which the artisan would seek to optimize in keeping with the art's teachings. Although the art does not specifically disclose the claimed residue value, there is ample reason to minimize the amount of toner species significantly larger than the average size.

Inaba remains applicable to the combination rejection for the reasons of record.

The rejection is maintained.

Conclusion

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR

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1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher D RoDee whose telephone number is 703 308-2465. The examiner can normally be reached on most weekdays from 6 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703 308-2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and 703 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0661.

cdr
March 7, 2003


CHRISTOPHER RODEE
PRIMARY EXAMINER